

been able to communicate with him about it. But I have examined a pair of horns at Mr. Rowland Ward's belonging to Major Lloyd, of the South Staffordshire Regiment (alluded to by Capt. Dunning), and have no doubt that they are those of a young male of *Ovis tragelaphus*. I think, therefore, we may assume it as proved that the present range of the Barbary Sheep extends through the interior of Tripoli into the southern mountains of Egypt.

But I have two pieces of evidence which tend to show that the Barbary Sheep in bygone years existed also in the more northern mountains of Eastern Egypt between the Nile and the Red Sea. Mr. E. N. Buxton has shown me a large and well-preserved right horn of the Barbary Sheep, which he picked up in Feb. 1893 on the lower slopes of the mountains to the north of the Wadi Medisa, during his journey from Keneh towards Jimsah¹. In such a dry climate it is impossible to say how long this horn may have lain there, but it is evidently comparatively recent.

Again, as Mr. Buxton has kindly pointed out to me, Prof. Schweinfurth, in an article "On the unknown Land of Egypt" (of which I have only seen a translation), speaks of the Barbary Sheep as being even now "frequent" in the Wadi Scietun, which debouches on the Nile below the town of Achmim (or Echmim) between Siout and Kenah. There is said to be a cistern in this valley about 60 kilometres N.W. of Achmim, to which these animals resort.

It is therefore by no means impossible that, as Geoffroy St.-Hilaire has stated, an example of *Ovis tragelaphus* may have been killed near Cairo at the beginning of the present century.

4. Note on the Breeding of the Surinam Water-Toad (*Pipa surinamensis*) in the Society's Reptile-House. By P. L. SCLATER, M.A., Ph.D., F.R.S., Secretary to the Society.

[Received January 14, 1895.]

When I visited the Gardens of the Royal Zoological Society of Amsterdam in May last, as I have already mentioned on a former occasion (see P. Z. S. 1894, p. 456), I observed with great interest seven living examples of the Surinam Toad in one of the hot-water tanks, being the first individuals of this remarkable Batrachian that I had ever seen alive. Noting the interest that I took in these creatures, our excellent corresponding member Mr. F. E. Blaauw, who was in my company on the occasion, most kindly offered to endeavour to obtain for the Gardens of this Society some

¹ See Mr. Flower's map, P. R. G. S. n. s. ix. p. 730 (1867).

specimens of it from his family estates in Surinam, and shortly afterwards sent out there a drawing of the *Pipa*, to assist in its identification. The first specimens received by Mr. Blaauw in answer to his requisition turned out to be examples of the large S. American toad *Bufo marinus* sive *agua* (see Additions on the 19th of September, 1894, P. Z. S. 1894, p. 752).



Upper view of Surinam Water-Toad, showing the traces of cells on the back.
(From a photograph taken Jan. 3, 1895.)

On a second occasion Mr. Blaauw was more successful, and on the 14th of November last handed over to me, as a present to the Society, ten living specimens of the veritable Surinam Toad—*Pipa surinamensis*.

The *Pipa* on arrival were placed in the large hot-water tank in the right-hand corner of the Reptile-house, until recently occupied by the African Mud-fish, where the water is kept at a temperature of about 70° Fahr. I may here remark that this Batrachian, so far as our experience goes, seems to be purely aquatic, and never voluntarily emerges from the water. At the same time, when caught and put upon the ground it is quite capable of hopping about easily.

The *Pipæ* were supplied first with bits of worms and subsequently with small fishes, and fed freely. They improved rapidly in health and condition.

On December 1st two of them were observed by the keepers to be *in copulâ*, one holding on round the middle of the body of the other. They remained in this position about 24 hours. After they had separated it was noticed that the back of one of them had become covered with spawn. The ova were very regularly arranged in shallow pits or cells over the whole of the back and appeared to be 80 or 90 in number. After this the ova seemed to drop out gradually, so far as we could see by looking into the tank without capturing the animal, and by December 20th had mostly disappeared, leaving only three of the cells occupied by apparently living embryos. These were situated in a nearly straight line across the middle of the back, and were of a yellow colour—no doubt from the large yolk-sac under which they lay.

On January 3rd I thought it would be advisable to ascertain by close examination the exact state of the matter. On that day accordingly the *Pipa* was caught and placed in a small glass of warm water, in the presence of the Superintendent and Head-keeper and two of the Keepers at the Reptile-house. It was at once apparent that only one cell now contained an embryo, of which we could plainly see the heart beating. During the examination the embryo fell out of the cell, and it being impossible to replace it I had it placed in spirit, and now exhibit it.

I thought it best to take the opportunity of having the *Pipa* photographed, which was very successfully done by Mr. Briggs.

I now exhibit copies of this photograph (see p. 87).

I propose to place the embryo of the *Pipa* in our Prosector's hands for further examination and description.

In conclusion I must record my best thanks to our Head-keeper, Mr. Arthur Thomson, for his care of and attention to these Batrachians, and for the notes which he had supplied to me, and express a hope that some of the other specimens will breed and furnish us with more successful results.
